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Forestry and the Environment: The Philippines Case Study

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Summary

Extensive deforestation in the Philippine uplands is causing serious environmental problems that threaten the country's sustainable development. Regulations against deforestation and programs to foster replanting are in place, but weak administration, coupled with growing demand for fuelwood, timber, and farmland, continue to threaten what forest remains.

Since 1983 USAID's assistance to the Philippines has included social forestry programs to counter environmental degradation, especially in the heavily deforested and erosion-prone upland areas. This support, which includes farm forestry, contract reforestation, and natural forest management, has helped move Philippine forestry away from a government lease system of commercial timber extraction to one centered on popular local involvement in sustainable forest management and use.

A \$32 million USAID Rainfed Resources Development Project (RRDP) pioneered a comprehensive approach for the degraded uplands and helped to bring about both a shift toward sustainable forest management in the Philippines and development of environmentally sound hillside farming systems.

This Highlights summarizes the findings of a 1993 field study by the Center for Development Information and Evaluation (CDIE) of the \$11 million social forestry component of the RRDP. Implemented from 1983 to 1991, this component had the following objectives:

Assist the Government of the Philippines in transforming the Department of Environment and Natural Resources (DENR) from a largely regulatory agency to a development organization capable of mobilizing local communities and private management of forest resources.

Provide technical assistance to upland communities to develop and implement forest management plans.

Strengthen existing or create new local government and nongovernment organizations (NGOs) to spread technical information and seek out suppliers of planting material and other services for community and farm forestry activities.

While conceived as a pilot effort limited to a number of specific sites and implementing arrangements, the project was successful in several important areas:

It laid the groundwork for forest conservation and made both local households and government agencies more sensitive to environmental problems in upland areas.

It increased government and NGO capacity to develop and promote low-cost forest use and management practices.

It used community organization techniques to establish sustainable social forestry programs.

It advanced better land and tree access through new long-term forest stewardship arrangements for the management and use of forested public upland areas by local groups.

Though RRDP got off to a promising start, some argue that USAID pulled the plug on the project too soon, thus leaving serious questions about sustainability unanswered. Project implementation spanned 8 years in the first field sites, much less in others. But a program that depends on repeated forest harvesting (whose shortest rotations fall between 7 and 10 years) needs more time to show results.

Since RRDP ended in 1991, a constellation of nongovernmental organizations (established during or growing out of USAID support) has taken over much of the task of promoting sustainable forestry. In most former RRDP sites, NGOs have carried on promising work. Major sector loans through the Asian Development Bank and USAID's current \$125 million Natural Resources Management Program continue to build on the foundation left by the project.

The Philippines' social forestry program that RRDP mobilized, however, still faces problems, such as the following:

Official attention continues to focus on lowland irrigated rice cultivation, neglecting the needs of upland areas where the subtle relationships between forests and crop cultivation are poorly understood.

DENR and Department of Agriculture have overlapping jurisdictions in regulating and supporting land use in upland areas.

Because there is no clear title to sloping public upland areas, households have only leaseholder or squatter status, and thus have limited incentive to manage the land responsibly.

Upland communities have high levels of poverty and illiteracy, which make providing social services and transferring technical knowledge difficult.

While the program continues to expand, stronger political commitment, clearer tenure arrangements, and more technically sound approaches are needed to counter continuing pressures on the

country's forest resources. Much remains to be done. Nevertheless, social and community forestry have emerged as major implements of the Philippine Government in countering forest degradation in the upland areas.

Background

Since 1521, when Magellan's fleet first put in for repairs, the Philippines has been famous for its timber. Since that time when forests covered 90 percent of the country the country has experienced virtually unabated depletion of its natural heritage. Today less than 20 percent of the land has forest cover, and much of that is of limited economic value. Since World War II, deforestation has accelerated at an unprecedented rate, due not only to commercial logging but to population growth and skewed land distribution that has left rural households with little choice but to follow logging roads into the uplands, where as settlers they clear remaining forests for fuelwood, timber, and farming.

The results of excessive deforestation have been far reaching. Tragic flash floods have claimed thousands of lives; siltation has damaged irrigation canals and hydroelectric power reservoirs; potable water supplies have declined as rivers dry up and water tables fall; and forest and marine habitats have been destroyed along with the valuable wildlife they contain.

The Philippines has little time left to define and develop approaches to halt deforestation and forest degradation. Efforts so far have been mixed. In response to pressures from environmental groups, the Philippine Government banned commercial tree harvesting in natural old growth forests. But logging bans neither stimulate legitimate public or private investment in secondary forest areas nor prevent the upland poor from cutting trees for fuelwood or clearing forests to cultivate crops.

DENR has gradually developed two related programs, the Integrated Social Forestry Program and the Community Forestry Program, to address upland development. The former aims to rehabilitate lower slopes where invasive perennial grasslands have largely replaced forests. The latter program aims to improve forest management in cutover residual forests mostly found on higher and steeper slopes. Both programs are supported by a comprehensive agrarian reform program.

Until the early 1980s, USAID focused much of its development assistance in the Philippines on the country's productive irrigated areas. The goal was to help the Philippines meet its basic food crop needs and to free up land for nontraditional agricultural production for export. USAID's interest in developing the uplands was first articulated in its 1980 Country Development Strategy Statement that identified small farmers in rainfed and upland areas of the Philippines as a major overlooked poverty group.

USAID's Assistance Approach

From 1982 to 1991, USAID and the Philippine Government committed

\$11 million through the larger \$32 million RRDP to introduce and spread community and private farm forestry activities, to rehabilitate upland soils, and to generate new jobs and incomes for impoverished upland households. Community organization was at the heart of RRDP's upland forestry conservation strategy. Initially, RRDP staff advised Philippine Government technicians on how to conduct rapid rural appraisals to identify problems as perceived by upland households, and then on how to form local farmer or village action groups to address those problems. For example, one community's need for potable water led directly to a local campaign to reforest nearby areas where streams had dried up. The areas had been denuded of trees and intensively farmed. The reforestation program in turn generated opportunities to start tree nurseries and to produce and collect tree seed.

Early RRDP efforts in community organization faced several constraints. Low functional literacy and limited financial management skills in the project areas required extensive RRDP staff involvement; however, security problems in the areas made their work difficult. In some locations and later as a general operating procedure the project learned to overcome these constraints by teaming local communities with a national or international NGO capable of providing the management oversight, technical assistance, and, in some cases, additional financial support needed to sustain the community social forestry efforts. RRDP was less successful in its effort to engage municipal governments to manage community reforestation programs; often village officials were captured by political interests, had personal agendas, or lacked the management skills for dependable leadership.

RRDP's greatest progress occurred late in its implementation, when, following the dramatic change in Philippine Government leadership in 1986, full support was given to promoting community organizations as vehicles of social change, popular participation, and development. Concurrently, a reorganization of the government apparatus divided the Ministry of Agriculture and Natural Resources into DENR and the Department of Agriculture. DENR became responsible for the management and use of all public forested upland areas. Most of DENR staff was detailed to local communities in an effort to decentralize programs and strengthen the Government's new people power approach to community development.

In this regard, the RRDP community organization approach has influenced DENR operations. One form that DENR operations have taken is community contract forestry. DENR has introduced 25-year certificates of stewardship contracts (CSCs) to villages and farmer groups in RRDP project areas (also in other locations) for the management of standing forests and for reforestation. RRDP sites, about 16 over the life of the project, were insignificant when compared with the nearly 40,000 rural communities spread throughout the Philippines. But RRDP put in place a workable approach that links DENR with local, national, and international NGOs to pioneer a social forestry approach that relies on participatory problem identification, community organization, and local contracting for replanting and managing forests in the country's upland areas.

This and related approaches have been and continue to be promoted through other programs. Since 1992 the National Resources Management Program has continued to support this approach by directing USAID assistance toward setting up a national forestry endowment, refining upland tenure and forest leasing policies, and crafting policies that reflect realistic forest resource values. USAID is not alone. In July 1991, 12 donors were funding 20 similar social forestry projects and programs for periods of 3 to 8 years at various sites throughout the Philippines.

Findings

Program Implementation

RRDP support helped the Philippine Government transform forest management from a focus on protection and policing to promotion of community-based participation. This transformation signifies RRDP's most enduring contribution to saving Philippine forests. Although this transformation is not yet complete, the momentum appears irreversible. Many former RRDP staff now work in DENR with some occupying key positions in which to continue to advocate participatory approaches to forest management.

Despite USAID support, government agencies have usually proven incapable of timely delivery of inputs and of offering sustained and technically sound advice to local forest users. To compensate, RRDP fostered the involvement of environmentally oriented NGOs. Since the project's termination, former RRDP staff have organized local NGOs with a regional focus to vie for national and international funding support for their conservation forestry and other rural development initiatives. Several of these NGOs have become attractive to donors because they have the necessary rural development skills and small operating budgets.

Although committed to social organization, NGOs tended to lack sufficient technical capacity to transform goodwill into effective action. A commonly heard lament by the CDIE evaluation team was that RRDP abandoned newly created local NGOs before they had acquired sufficient technical and administrative depth and experience. However, wherever universities or international NGOs reinforced local NGOs, field capacity was enhanced. A network of organizations engaged in community-based environment and natural resources management now exists, peopled by former project staff and beneficiaries who share experiences on how to continue to conduct social forestry and other community action programs.

RRDP also helped DENR embrace policies that are more conducive to community-based forest management. DENR continues to be responsible for guarding millions of forested hectares. Now, however, it is working to develop communities as allies in its battle to arrest forest destruction and degradation, relying not only on enforcement, but also on incentives to gain their cooperation. Moreover, RRDP helped identify and clarify, if not directly resolve, policy issues surrounding land and forest access, ownership, and tenure arrangements for the uplands.

Land tenure policy remains a thorny issue, with a range of land and forest use arrangements being tried. Government leasing is one arrangement attempted in several RRDP project sites with some apparent success. For leases up to 25 years, a government agency, such as DENR, effectively maintains ownership and provides detailed supervision to farmers, farmer associations, or communities deemed qualified to manage the land and derive agreed benefits, for example, from sustainable selective tree harvesting.

RRDP's training was wide reaching, from its own staff to line agency personnel, to community leaders, to ordinary farmers. More than 15,000 extension agents and farmers at roughly 30 RRDP-supported sites throughout the Philippines attended courses on forest management. RRDP training centers have become models for fostering social forestry. An indication of the high caliber of RRDP training is the many trained RRDP former staff who have used their skills to form their own NGOs or to become trainers themselves.

RRDP relied on formal training courses, model farm or demonstration farm visits, and group meetings to raise environmental consciousness and enhance the managerial and technical skills of foresters and farmers in the communities. It established training centers in many of the project sites, and developed a number of extension manuals that helped institutionalize within the DENR the forestry technologies introduced through the project. RRDP designed these manuals to help project and DENR staff understand reforestation and forest management techniques. RRDP trainers reinforced short courses through participant visits to demonstration sites and through farmer-to-farmer training exercises. These approaches brought community leaders from operating work groups together with leaders and members of newly forming groups to demonstrate new techniques.

RRDP used a blend of technologies and practices for the various forest areas with uneven results. Several factors contributed to the mixed outcomes of the various attempted technologies. First, the lack of harvest plans and benefit sharing arrangements was a constant source of uncertainty, reducing local communities' commitment to adopting the new methods.

Second, "turf" conflicts between competing government agencies kept some of the best technologies from being adopted. For example, in Masaraga the RRDP project team wanted to develop multistory cropping. The team wanted to plant fibrous abaca to speed reforestation. The bananalike abaca is 95 percent water, a feature that university technicians felt provides an excellent firebreak and microclimate for regeneration of other species. Moreover, income from the fibrous pulp, which can be harvested every 3 months after the first 2 years, would return a projected 16,000 pesos per hectare per year. But DENR delayed the development of the system because it feared the abaca would be considered an agricultural product, thus inviting interference from the Department of Agriculture.

Third, the limited understanding of NGO staff of proper forestry technologies and their lack of follow through also hindered the adoption of new technologies. In an NGO-managed community forestry site in Kiblawan, the evaluation team noticed signs of accelerated erosion resulting from vertical bands of cleared vegetation. In another site where timber stand-improvement technology was being implemented, the team noticed that the plantations had not been properly thinned, even though the technology essentially consists of thinning poorer specimens to make room for the growth of better ones. This is one area where the evaluation team felt the limited duration of RRDP financing affected the degree of postproject success.

Program Impact

The direct biophysical and socioeconomic impact of RRDP activities on the Philippines' uplands, although limited in national scope, was significant at local sites. When RRDP ended in 1991, it had reforested 1,497 hectares at 16 sites around the Philippines, about 86 percent of the 1,738 hectares targeted by the project, constituting, however, only a tiny fraction of the 6 to 9 million hectares of forested land in the Philippines. Indirectly, the project affected a wider area through the greater effectiveness of DENR and environmental NGOs in implementing social forestry programs. Even a generous argument could advance no more than 300,000 hectares of forested land affected (and this with additional non USAID funding) out of a potential 6 to 9 million. Locally, the physical and economic conditions of households at RRDP sites were enhanced. RRDP-supported activities have enhanced the lives of participating farmers and families and opened up new possibilities for change. The ultimate impact of RRDP will depend on the continuation of the processes it has set in motion: greater technical capacity for NGOs and DENR, increased awareness among local resource users regarding sustainable land uses and reforestation of degraded lands, and availability of necessary incentives for greater adoption of social forestry technologies and practices.

Program Efficiency

Social forestry activities among upland households are expanding, suggesting that participants are finding their investments of land and labor to be producing benefits. The \$11.1 million RRDP investment in social forestry can be expected to produce both direct private benefits to participating upland households, in the form of income from forest products, and indirect public benefits to the broader community of upland and lowland inhabitants from such contributions as improved watershed quality, reduced damage from flooding and siltation of irrigation and hydropower reservoirs, and marine fisheries.

Generating positive net private and social benefits from project investments does not require a large number of present and future program participants. RRDP reached only an estimated 2,220 upland families with forest management technologies that were applied over little more than 1,400 hectares at the time the project ended in

1991. There has been no comprehensive postproject monitoring to determine how many other upland families and how many more hectares of land have been incorporated into RRDP-based forest management systems in subsequent years.

Taking a conservative \$100 per hectare present value of future net income from upland forest resources as a proxy for participant benefits, RRDP social forestry activities would need to reach only 111,000 hectares of land to achieve a positive rate of return on USAID and Government of the Philippines' investments a relatively small portion of the roughly 7.1 million hectares potential forested area in the country. Although RRDP covered only about 1 percent of the 111,000 hectares, its spread to the total area appears possible if secure access to land can be achieved through CSCs and technical constraints limiting the spread of improved tree seedlings are removed.

Program Effectiveness

By targeting upland areas, RRDP reached low-income rural households in many ethnic groups. Concentration of most RRDP activities in upland rainfed areas ensured that beneficiaries would be in the lowest income groups nationally. Even well-to-do upland farmers are poor by the standards of average lowland irrigated rice producers. Because upland areas are mostly public lands, project benefits do not accrue to absentee landlords. RRDP activities reached disadvantaged groups as well at several project sites. At one project site, RRDP introduced agroforestry and reforestation practices to disadvantaged groups that helped strengthen their tenurial claims on the land.

RRDP engaged rural women in active management and leadership of hillside conservation farming groups. In upland communities, women, whose numbers exceed men, are truly equal partners. In the Philippines, women often have the dominant voice in the home and in community organizations. Recognizing this fact, RRDP included women in participatory problem solving and priority settings. Village women wanted more opportunities to earn cash close to their homes and families. In response, RRDP project staff at some sites worked to include fodder species to support livestock fattening enterprises around terraced hillside cultivation systems. In the Magdungao project site, the forest users' cooperative established a women's organization that also became involved in getting better health care services for the village. Women earned money for the cooperative by making meals for participants attending the centers' training courses.

Program Sustainability and Replicability

Despite its short project life, RRDP's forestry program made progress at ensuring institutional sustainability. In almost every project site where implementation succeeded, some form of follow-on activity was observed. Local, regional, and national NGOs, including universities, usually provide continuing support to local community programs. In some sites, local NGOs were effective enough to attract international and other donor funds. NGOs initiated

under RRDP were also able to bid for and win contracts with the local government to implement social, community, and contract reforestation activities in the same regions as RRDP activities. Some were even helping to implement the follow-on National Resources Management Program.

Rural household involvement continues after the official end of the project. Some farm households have formed cooperatives that are contracting directly with local governments (i.e., without project or NGO intervention). Many model farmers under RRDP serve as trainers and consultants to farmers in new sites funded under other non-RRDP projects, which helps to sustain the technical commitment of rural people who modified their practices because of RRDP and adds financial and organizational impetus to local communities. In one site, training is so frequent that the local women had formed an organization to accommodate and feed trainees.

RRDP's social forestry program provided a replicable conservation and development model that is being used by other donors and government programs in the Philippines. The RRDP social forestry program marked a sound beginning for forest conservation. Although RRDP reported having distributed fewer than 1,000 CSCs, the endeavor was generally recognized as having reinvigorated DENR's national efforts, which between 1988 and 1992, issued more than 120,000 new CSCs. Much of this was made possible by an Asian Development Bank program loan, indicative of the confidence other donors have in the social forestry process. In addition, the Philippine Government adopted many of the lessons learned of RRDP measures in farmer training, community organization, and economic incentive into the design and operation of its national social forestry programs.

Lessons Learned

Motivated and competent staff are critical to sustaining community-based conservation forestry activities. The evaluation team observed RRDP staff with a wide range of community organization, communications, and practical forestry skills. Project and nonproject sites with the best results were those that had received the greatest technical support. And in almost every case, the project staff working in the sites were foresters with community organization skills rather than the other way around. Although the project staff at other sites were motivated, they were less well equipped to address many of the technical problems associated with sustainable social forestry programs. As a result, they could not gain the respect and participation of the older, more experienced farmers.

In the absence of positive political will, social forestry approaches can only partially meet deforestation challenges. Technical and ecological awareness and action are best brought about by complementary strategies; there is no one best way. Strong community organization enhances planning decisions and actions in upland resource management and is a necessary foundation for community and individual responsibility, consensus, and empowerment. It requires a mix of commitment, hard work, and

technical capability to successfully facilitate organization and implementation among forest communities. NGOs capture local energy but often confront a lethargic system or a system torn by turf battles of competing agencies.

Sound forestry practices spread and are sustained best when access to benefits of improved management can be assured of land for more than one harvest cycle. Tenure continuity is essential given the lag between tree planting and harvest. Long-term forest management requires long tenure. Sustainable farm and forest management systems do not spread where land access is disputed or disputes erupt as a result of government programs.

Hands-on training and technical expertise for program leaders as well as program participants is a necessary part of upland social forestry programs. Technical knowledge of tree culture and forest management is critical to program success. Virtually all government agencies and NGOs working in natural resource management are more effective at creating organizations and plans than in implementing them. Few upland households will adopt better forestry management practices if they have not received hands-on training.

Farmer-to-farmer training appears highly effective for disseminating the skills of good tree planting, maintenance, reforestation, and forest management.

Upland forest management systems need an economic engine for sustainability and spread. Upland households can make significant long-term investments in tree planting only if there is an accompanying short-term compensation. Upland forestry prospers and spreads best where farmers and local communities have linked it to profitable cash enterprises for example, harvest of alternative forest products, fruit trees, livestock raising, fish farming, or wood lots. Rural families can also grow and market tree seed and seedlings, which enforces their interest in forest management by supplying planting materials for others. Where not integrated with cash enterprises, upland agroforestry, reforestation, and improved management of remnant forests have been abandoned or have failed to expand after initial pump-priming subsidies were halted.

This Evaluation Highlights was prepared by Phillip Church of the Center for Development Information and Evaluation. It summarizes the findings from the USAID Working Paper "Forestry and the Environment: The Philippines Case Study," (forthcoming) by Phillip Church, Frederick Sowers, Buford Briscoe, and Corazon Lamug. Readers can order copies of CDIE reports from the DISC, 1611 North Kent Street, Suite 200, Arlington, VA 22209-2111, telephone (703) 351-4006; fax (703) 351-4039. Editorial and production services provided by Conwal, Inc.